



Call for papers

## DEAR COLLEAGUES!

Moscow Power Engineering Institute and  
Youth Section of Russian National Committee CIGRE  
are pleased to invite students and young engineers to attend  
**The International Scientific and Technical Conference of Students and  
Young Professionals "Relay Protection and Automation"**

The International Scientific and Technical Conference of Students and Young Professionals "Relay Protection and Automation" will be held in Moscow, Russia, on 27-28 September 2018.

The conference is a large international framework that promotes open innovations of academia and industry, attracts talented students and young professionals to present their projects, meet people alike, create new teams, and find potential employers.

## PAPER TOPICS

- Conceptual issues of construction and development of relay protection systems, emergency and regime automatics (RPA) and automation systems of electric power facilities with considering of the prospects of innovative development of the electric power industry and the creation of intelligent networks
- Development issues and methods for increasing the effectiveness of the RPA system
- Increase the accuracy of modeling processes and characteristics of network elements
- Application and development issues of technologies for phasor measurement of energy management parameters for management, control and protection (WAMPACS)
- Conceptual issues of the development and application of the "digital substation", including the evaluation of reliability indicators

## TECHNICAL PROGRAM COMMITTEE

**Committee Chair** – A.V. Zhukov (JSC «SO UPS », Russia)

**Committee Co-Chairs:**

J. Zakonjsek (CIGRE SC B5, Relarte Ltd.,Slovenia)

U. Rudez (University of Ljubljana,Slovenia )

J. Cardenas (GE Grid Solutions, Spain)

M. Kezunovic (Texas A&M University, USA)

A. Apostolov (PAC World, USA)





V. Terzija (University of Manchester, UK)  
 G.S. Nudel'man (JSC «VNIIR», Russia)  
 A.I. Rasshcheplyayev (JSC «SO UPS», Russia)  
 E.I. Satsuk (JSC «SO UPS», Russia)  
 D.M. Dubinin (JSC «SO UPS», Russia)  
 A.A. Lisitsyn (JSC «STC UPS », Russia)  
 A.A. Voloshin (NRU «MPEI», Russia)

## CONFERENCE SCHEDULE

1.	Registration form and full paper submission deadline	until 15 May 2018
2.	Notification of acceptance deadline	until 01 July 2018
3.	Registration fee payment deadline	until 01 August 2018
4.	Conference opening ceremony	27 September 2018
5.	Conference closure ceremony	28 September 2018

## GUIDELINES

Bachelor's, master's degree, PhD students and young professionals (up to 35 y.o.) are eligible to attend the conference as a speaker, while a co-author may be research advisor or consultant.

All conference papers presented by the author at the conference will be published in IEEE Xplore, which means further publication in Scopus or Web of Science databases.

Conference papers must be written in English and must not exceed 2500 words in length. Papers should be submitted before May 15, 2018 via the conference web site (prior registration is required): <http://www.cigre.ru/en/rnk/youth/ieeerpa/>.

The main body of the text should be in Times New Roman 14 point, 1,5 spaced. The paper title must appear in boldface letters and should be in ALL CAPITALS. The authors' name(s), affiliation(s), contact details appear below the title in capital and lower case letters. Please follow provided paper template.

The review process is organized as the single-blind review.

Registration fee is **50 €** per person. Those students who have IEEE or CIGRE membership attend the conference without paying registration fee.

A paper must be written clearly and include the following: importance of the research problem, novelty of performed research, author's contribution and practical usefulness of results. Before submitting a paper please ensure that it has been carefully read for typographical and grammatical errors. The Organizing Committee reserves the right to reject submissions that do not meet these requirements.

Additional information about the conference is available on its website <http://www.cigre.ru/en/rnk/youth/ieeerpa/>.

The working languages of the conference are **Russian and English**.





## CONTACT INFORMATION

Secretary of The International Scientific and Technical Conference of Students and Young Professionals "Relay Protection and Automation"

Usachev Sergey

E-mail: [papersubmissionrpa2018@gmail.com](mailto:papersubmissionrpa2018@gmail.com)

Deputy Head of the Organizing Committee of the Youth Section of RNC CIGRE

Dmitry Serov

Email: [serovcigre@yandex.ru](mailto:serovcigre@yandex.ru)

Tel.: +7(495)362-77-66





# **APPLICATION OF TECHNOLOGY OF INTERNET OF THINGS IN POWER ENGINEERING FOR IMPLEMENTATION OF OPERATIONAL MONITORING OF DAMAGES IN LOW VOLTAGE ELECTRICAL NETWORKS FOR ESTIMATE TECHNICAL CONDITION OF EQUIPMENT AND CONTROLLING OF RELIABILITY OF POWER DISTRIBUTION ENERGY SYSTEM**

E.A. Voloshin, A.A. Voloshin, S.S. Usachev, A.R. Ententeev  
Relay Control and Automation of Electrical Power Systems, National Research University  
«MPEI», Moscow, Russia  
E-mail: usachevproject@gmail.com

## **Introduction**

In some cases, there is a need for monitoring low-voltage systems with subsequent conservation and systematization of measurements. In conditions of low-level for monitoring energy distribution systems, the use of new technologies based on algorithms of Internet of things, can reduce the costs of maintenance of electrical networks or power distribution systems. During the research, the technology of the Internet of things was used, where the microcontroller ESP8266 and the ACS712 current sensor module were used as a basis for the developed measuring instrument. As a result, we have a constructive solution of the portable meter, allowing measuring the current value in electrical networks with the subsequent systematization of the received information and sending it to a dedicated server. An algorithm for the working of device in the technology of the Internet of things has been obtained. The developed measuring instrument and derived algorithms of network can be used to improve the quality of monitoring in electricity distribution systems, for estimate technical condition of equipment and controlling of reliability of power distribution energy system.